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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/680,857	10/07/2003	Gregory S. Meyer	200310103-1	5821
22879	7590	02/25/2005	EXAMINER POTTER, ROY KARL	
HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400			ART UNIT 2822	

DATE MAILED: 02/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

CT

Office Action Summary	Application No. 10/680,857	Applicant(s) MEYER ET AL.	
	Examiner Roy K. Potter	Art Unit 2822	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20-29 is/are allowed.
- 6) ☒ Claim(s) 1,2,30 and 33 is/are rejected.
- 7) ☒ Claim(s) 3-19, 31-32 and 34-37 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claims 1 – 37 are pending.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Tazawa et al..

Tazawa et al., U.S. Patent No. 5,394,010, discloses a semiconductor assembly having laminated semiconductor devices. As shown in Figure 1, the assembly comprises a circuit board 15 and an electronic component 10b containing chip 11b. A plurality of incremental detent 19a and projections 19b, described in column 3, lines 3- 6 are located on the circuit board and the electronic component 10b retain the component in position and prevent linear motion.

Claims 1 – 2, 30 and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Johnson et al..

Johnson et al., U.S. Patent 4,321,423, discloses heat sink fastenings. As shown in Figures 1 and 3, electronic component 7 is fastened to printed circuit board 8 by projecting bolts 9 and 10 which fit into openings and are set in indents in solder on the

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underside of the board. These bolts retain the electronic component in relation to the board. The bolts 9 and 10 have threads, which are coated, by molten solder wave 15 which forms small masses 13 which have complementary shapes to the threaded bolts.

Allowable Subject Matter

Claims 20 – 29 are allowed.

The prior art does not recite the third threaded portion recited in claim 20.

The prior art does not teach or suggest a plurality of detents coupled to a processor component or a circuit board and projections coupled to the other as recited in claims 25. Claims 26 – 29 are dependent on claim 25.

Claims 34 – 37 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The prior art does not teach or suggest the recited step of screwing.

The prior art does not teach or suggest the recited step of connecting a processor assembly to a circuit board.

The prior art does not teach the rotatably coupled first intermediate structure recited in claim 3. Claims 4 – 18 are dependent on claim 3.

The prior art does not teach or suggest the cantilevered mass of a power supply as recited in claim 19.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Conner, U.S. Patent No. 3,631,297 discloses an anti-vibration mounting for a large printed circuit board. As shown in figures 1 – 3, projections 19, which extend downward from a surface 12 of a circuit board 10 and extend into foam layer 30 making depressions 31.

Pogge et al., U.S. Patent No. 6,087,199, discloses a method for fabricating a very dense chip package. As shown in Figure 2A, electronic components 201a, 201b are positioned on a substrate 202 by fitting depressions 203a, 203b on the bottom faces 2-04a, 204b of the components 201a, 201b with corresponding projections 205a, 205b extending from the upper face 206 of the substrate 202.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roy K. Potter whose telephone number is 571 272 1842. The examiner can normally be reached on M-F.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Roy K Potter', is positioned above the printed name.

Roy K Potter
Primary Examiner
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